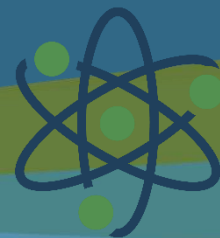


NUCLEAR INNOVATION: CLEAN ENERGY FUTURE (NICE FUTURE)

A CLEAN ENERGY MINISTERIAL INITIATIVE



Side Event to the Ninth Clean Energy Ministerial (CEM9) Meeting

Danish Architecture Centre (DAC), Gammel Dok Building, Room 1

Strandgade 27B, 1401 Copenhagen, Denmark

May 24, 2018, 13:30 – 14:30 (60 mins), Heads of Delegation Photo 13:25-13:30 (5 mins)

Agenda

#	ITEM
1	Welcome and Opening <ul style="list-style-type: none">❖ Denis Janin, Immediate Past President, International Youth Nuclear Congress
2	The NICE Future Opportunity – Remarks by Lead Countries <ul style="list-style-type: none">❖ Mr. Dan Brouillette, Deputy Secretary of Energy, United States Department of Energy❖ Ms. Kim Rudd, Parliamentary Secretary to the Minister of Natural Resources, Natural Resources Canada❖ Mr. Masaki Ogushi, Parliamentary Vice-Minister, Japan's Ministry of Economy, Trade and Industry
3	The NICE Future Opportunity – Remarks by Emerging and Embarking Countries <ul style="list-style-type: none">❖ Dr. Michal Kurtyka, Secretary of State, Ministry of Energy & Government Plenipotentiary for COP24, Poland❖ Other Invited Delegation Heads to Podium
4	Reimagining Nuclear: Art and Ideation <ul style="list-style-type: none">❖ Mr. Joshua Freed, Vice President of Clean Energy, Third Way, to speak to visual display of integrated energy systems

#	ITEM
5	<p>The Roles of Nuclear Energy in a Clean Energy World – Private Sector, Civil Society and Researcher Views</p> <ul style="list-style-type: none"> ❖ Ms. Agneta Rising, Director General, World Nuclear Association and Board Member of Women in Nuclear ❖ Mr. Rich Powell, Executive Director, ClearPath ❖ Shannon Bragg-Sitton, Department Manager, Idaho National Laboratories & Mark Lesinski, President and CEO, Canadian Nuclear Laboratories
6	<p>Keynote/High-Level Wrap-Up: The Roles of Nuclear Energy in a Clean Energy World – International Organization Perspectives, Next Steps</p> <ul style="list-style-type: none"> ❖ Dr. Fatih Birol, Executive Director, International Energy Agency ❖ Mr. William D. Magwood IV, Director General, Nuclear Energy Agency

NUCLEAR INNOVATION: CLEAN ENERGY FUTURE

NICE FUTURE INITIATIVE



Side Event Biographies

United States Department of Energy – Mr. Dan Brouillette, Deputy Secretary of Energy



Dan Brouillette is the Deputy Secretary of the U.S. Department of Energy. Mr. Brouillette has three decades of experience in both the public and private sector. Most recently he was the Senior Vice President and head of public policy for USAA, the Nation’s leading provider of financial services to the military community. Before joining USAA, Mr. Brouillette was a Vice President of Ford Motor Company, where he led the automaker’s domestic policy teams and served on its North American Operating Committee. At Ford and USAA, he was part of senior management teams and served on its North American Operating Committee. At Ford and USAA, he was part of senior management that helped bring to market innovative technologies like auto collision avoidance and remote deposit capture, a technology invented by USAA that allows the use of smart devices to deposit funds into our banking accounts. Before his transition into the private sector, Mr. Brouillette held numerous jobs in government. He was Chief of Staff to the U.S. House of Representatives Committee on Energy and Commerce, which has broad jurisdictional and oversight authority over five Cabinet-level Federal agencies. He also served as Assistant Secretary of Energy for Congressional and Intergovernmental Affairs from 2001 to 2003. In addition, he is a former state energy regulator, having served as a member of the Louisiana State Mineral and Energy Board from 2013 to 2016.

Natural Resources Canada - Ms. Kim Rudd, Parliamentary Secretary to the Minister of Natural Resources



Kim Rudd has been a lifelong entrepreneur and an advocate on the federal and provincial levels for small businesses, child care, and post-secondary education. In 2011, she was named RBC’s Canadian Woman Entrepreneur of the Year, and served as Vice-Chair of the Ontario TCAF Secretariat.

Additionally, Rudd was Founding Executive Director of the Association of Private Colleges and Vice-President of the Ontario Association of Career Colleges. Rudd has also been a lifelong volunteer in organizations ranging from the United Way to Kinark Child and Family Services, heading the Regional Physician Recruitment and Retention Committee and serving as President of the Northumberland Central Chamber of Commerce.

Rudd was elected as Member of Parliament for Northumberland—Peterborough South in 2015 and was appointed Parliamentary Secretary to the Minister of Natural Resources.

Japan - Masaki Ogushi, Parliamentary Vice-Minister of Economy, Trade and Industry



Mr. Masaki Ogushi was appointed as Japan's Parliamentary Vice-Minister of Economy, Trade and Industry on April 18, 2017. He joins the Ministry of Economy, Trade and Industry (METI) after serving in several key posts in the Liberal Democratic Party (LDP). These included Vice Chairman of the Diet Affairs Committee, Deputy Director of the Education, Culture, Sports, Science and Technology Division, Deputy Director of the Women's Affairs Division, and Vice Chairman for the Committee on Organizations Involved with Labor.

Mr. Ogushi was first elected to the House of Representatives in 2012 as a representative of Hyogo Prefecture, and was re-elected twice. Prior to elected office, Mr. Ogushi was visiting professor at Bunri University of Hospitality and an assistant professor at the School of Knowledge Science of the Japan Advanced Institute of Science and Technology. Mr. Ogushi graduated as a Master of Engineering from Tohoku University's graduate school in 1991. He would go on to earn a Ph.D. from the Japan Advanced Institute of Science and Technology's School of Science in 2003. Mr. Ogushi was born in Hyogo Prefecture on January 20, 1966.

IEA- Dr. Fatih Birol, Executive Director



Dr Fatih Birol took office as Executive Director on 1 September 2015, twenty years after first joining the International Energy Agency (IEA) as a junior analyst. Well known internationally for his work in the energy field, his election as Executive Director marks one of the rare occasions that the head of an international organisation has been selected internally. Prior to assuming his current duties, he held the positions of Chief Economist and Director of Global Energy Economics, with responsibilities that included directing the flagship *World Energy Outlook* publication.

During his career, Dr Fatih Birol has made a significant contribution to the international policy debate on energy and climate change. He has become a sought-after speaker at major international gatherings and has been regularly called upon for private meetings with world leaders. Dr Birol has been named by Forbes Magazine among the most powerful people in terms of influence on the world's energy scene. He is the Chairman of the World Economic Forum's (Davos) Energy Advisory Board and serves as a member of the UN Secretary-General's Advisory Board on 'Sustainable Energy for All'. He is the recipient of numerous awards from government and industry for his contribution to energy and climate economics. In 2013, he received the Japanese Emperor's Order of the Rising Sun, the country's highest honour. He has also been decorated by the governments of Austria (Golden Honour Medal), France (*Chevalier dans l'Ordre des Palmes Académiques*), Germany (Federal Cross of Merit), Italy (Order of Merit of the Republic), the Netherlands, Poland, Sweden (Order of the Polar Star), Turkey, the United States and the Russian Academy of Sciences. He is a past winner of the International Association of Energy Economics' award for outstanding contribution to the profession. Prior to joining the IEA in 1995, Dr Birol worked for a number of years as an oil market analyst at the Organisation of the Petroleum Exporting Countries (OPEC) in Vienna. A Turkish citizen, Dr Birol was born in Ankara in 1958.

He earned a BSc degree in power engineering from the Technical University of Istanbul. He received his MSc and PhD in energy economics from the Technical University of Vienna. In 2013, Dr Birol was awarded a Doctorate of Science honoris causa by Imperial College London. He was made an honorary life member of Galatasaray Football Club in 2013.

Nuclear Energy Association - Mr. William D. Magwood, IV, Director-General



Mr. William D. Magwood is the Director-General of the Nuclear Energy Agency (NEA) of the Organisation for Economic Co-operation and Development (OECD) since 1 September 2014. He has extensive experience in both the regulatory and developmental aspects of nuclear energy, including at the international level. From 2010 to 2014, he served as one of the five Commissioners appointed by the US President and confirmed by the US Senate to the US Nuclear Regulatory Commission (NRC). While a commissioner, he advocated the importance of nuclear regulatory independence and the necessity of maintaining strong, credible and technically sound nuclear regulation in the United States and all countries that use nuclear power. Prior to his appointment at the NRC, from 2005 to 2010 he provided independent strategic and policy advice to US and international clients on energy, environmental and technology policy issues.

During this time, he also sat on various advisory groups and provided technical and policy advice to members of the US Congress on nuclear research, education and climate change policy. From 1998 to 2005, Mr. Magwood was Director of Nuclear Energy at the US Department of Energy (DOE). During his tenure, he launched several important initiatives including the US Nuclear Power 2010 programme and the Generation IV International Forum (GIF). He was also actively involved in the work of the NEA, serving as a Steering Committee bureau member from 1999 to 2003, and as Chair in 2004 and early 2005. Prior to his experience at the DOE, Mr. Magwood managed electric utility research and nuclear policy programmes at the Edison Electric Institute in Washington, DC, and was earlier a scientist at Westinghouse Electric Corporation in Pittsburgh, Pennsylvania. Mr. Magwood, a US national, holds Bachelor's degrees in Physics and English from Carnegie Mellon University and a Master of Fine Arts from the University of Pittsburgh.

World Nuclear Association – Ms. Agneta Rising, Director General



Agneta Rising, a Board Member of Women in Nuclear, became Director General of World Nuclear Association on 1 January 2013, having previously held the position of Vice President Environment at Vattenfall AB. In this post Ms. Rising headed a pan-European department focused on energy, environment and sustainability. Previously, Ms. Rising was Director for Nuclear Business Development at Vattenfall Generation. Ms. Rising joined Vattenfall AB (then Swedish State Power Board) in 1980. Her career there centred on radiological protection. Within the Vattenfall Group, Rising was the leading specialist on nuclear energy and the environment. Agneta Rising became chairman of the Uranium Institute in May 2000 and presided over its transformation into the World Nuclear Association in 2001.

Ms. Rising is co-founder and former president of Women in Nuclear (WIN). During her WIN presidency, the organization quadrupled in size. Ms. Rising has also been president of the European Nuclear Society and president of the Swedish Nuclear Society. Over the past two decades, Agneta Rising has been appointed by the Swedish government, the EU Commission and the International Atomic Energy Agency to several significant expert and advisory positions relevant to the safety and future development of nuclear power. Among these, Ms. Rising served for four years on the IAEA's International Nuclear Safety Group. She was awarded the Atoms for Peace Prize in 2013.

Third Way - Mr. Joshua Freed, Vice President of Clean Energy



As the founder and leader of Third Way's Clean Energy Program, Mr. Freed promotes policies to use every tool possible to combat climate change—including scaled-up innovation, advanced nuclear, and carbon capture technologies in addition to the increased use of renewables and efficient storage.

Since 2009, he has overseen Third Way's clean energy and climate advocacy efforts, serving as the organization's chief strategist on these issues. He regularly advises senior federal and state policymakers, philanthropies, academics, and business leaders. Under Mr. Freed's leadership, his team's accomplishments include Third Way's groundbreaking research on advanced nuclear technology—which transformed federal support for nuclear innovation—and building new alliances to defend federal support for clean energy research and development. Mr. Freed regularly writes and speaks on climate, clean energy, and innovation issues, and his work has been featured in *The New York Times*, *The Washington Post*, *NPR*, *National Journal*, *POLITICO*, *The Los Angeles Times* and *Wired*.

Prior to joining Third Way, Mr. Freed worked at the intersection of politics, advocacy, and policy, and technology as a Vice President at GMMB, where he advised the senior leadership of the Bill & Melinda Gates Foundation. He also served as the Chief Policy Advisor for Representative Rob Andrews and as Deputy Chief of Staff for Representative Diana DeGette. Josh earned his Master's from the University of Maryland, College Park and his Bachelor's degree from Brandeis University. When not at work, Mr. Freed spends time with his wife, two kids, and dog in the Mount Pleasant neighborhood of Washington, DC.

ClearPath Foundation – Mr. Rich Powell, Executive Director



Mr. Rich Powell is the Executive Director at ClearPath Foundation, where he leads the day-to-day operations of ClearPath programs including policy and strategy. He focuses on educating policymakers on investing wisely in energy innovation and maintaining and promoting baseload clean energy resources. Mr. Powell also leads ClearPath's external advocacy and research partnerships with non-profits, academia, and the private sector.

Previously, Mr. Powell was with McKinsey & Company in the Sustainability and Resource Productivity Practice. He focused on clean energy strategy, residential energy efficiency, low carbon growth, and clean tech market entry. He served clients across the private, public, and social sectors. Mr. Powell earned a Bachelor of Arts from Harvard College in Environmental Science and Public Policy, and a Juris Doctorate from New York University. His area of expertise is in policy and strategy.

International Youth Nuclear Congress – Denis Janin, Former President and Portfolio Manager



Mr. Denis Janin was President of the International Youth Nuclear Congress (IYNC) from 2016 till April 2018. He was previously involved in the French Nuclear Society Young Generation (SFEN-JG) activities and has had various responsibilities with the European (ENS-YGN) and international (IYNC) young generation organizations.

In his professional role Mr. Denis Janin is a nuclear engineer at E.ON since 2011. He was in charge of core design and safety analysis activities until 2015. He then joined the department of energy economics at PreussenElektra, the nuclear subsidiary of E.ON, where he is in charge of assets optimization, market analysis and power hedging as portfolio manager.

Idaho National Laboratories – Dr. Shannon Bragg-Sitton, Department Manager and Program Lead



Dr. Bragg-Sitton is the Manager of the Systems Integration Department in the Nuclear Systems Design & Analysis Division at Idaho National Laboratory. Dr. Bragg-Sitton leads the 2017 DOE Big Idea Nuclear Energy Reimagined that seeks to overcome the technical, economic, and institutional barriers that inhibit wider use of nuclear energy in coordinated energy systems, both centralized and distributed (viz., poly-generation and hybrid energy systems).

Dr. Bragg-Sitton serves in various leadership positions within Department of Energy Office of Nuclear Energy (DOE-NE) programs related to advanced nuclear systems development. Since 2014, Shannon has led the Nuclear-Renewable Hybrid Energy Systems (N-R HES) program under DOE-NE Crosscutting Technologies. N-R HES designs seek to coordinate the use of multiple clean energy generation sources – e.g. nuclear and renewables – to meet both thermal and electrical energy needs. Shannon is also the Technical Area Lead for Special Purpose Reactor Applications within the DOE-NE Advanced Reactor Technology Program, established in 2017. This effort is focused on developing a Megawatt class (<20 MWt) nuclear reactor to provide energy at remote locations for use by communities, commercial industry or defense entities. From 2014 to 2017, Shannon served as the Deputy National Technical Director for the Advanced Fuels Campaign (AFC) in the DOE Fuel Cycle Technologies Program. AFC focuses on the development of enhanced accident tolerant fuels for light water reactors, advanced reactor fuels, and capability development to support fuel fabrication, testing and characterization.

Prior to joining INL, Dr Bragg-Sitton was an Assistant Professor in the Nuclear Engineering Department at Texas A&M University (2007 – 2010) and was a Technical Staff Member at Los Alamos National Laboratory (2004 – 2007), during which time she was on assignment at NASA Marshall Space Flight Center to support development of space nuclear power and propulsion systems. Her education includes a Bachelor of Science in Nuclear Engineering from Texas A&M University; a Master of Science in Medical Physics from the University of Texas at Houston; and a Masters and Ph.D. in Nuclear Engineering from the University of Michigan.

Canadian Nuclear Laboratories – Dr. Mark Lesinski, President and Chief Executive Officer



Mark Lesinski was appointed President and Chief Executive Officer of Canadian Nuclear Laboratories Limited (CNL) effective 2015 September 13. CNL is Canada's premier nuclear science and technology laboratory managed by the Canadian National Energy Alliance (CNEA) on behalf of Atomic Energy of Canada Limited (AECL).

Mr. Lesinski has a distinguished career in nuclear science, operations, projects, and decommissioning. His 41 years of experience spans commercial and government nuclear facilities, from power reactor operations and major retrofit projects to management of decontamination and decommissioning (D&D) as well as federal laboratory transformation and operations.

Mr Lesinski is overseeing an unprecedented transformation of CNL including an investment of more than \$1.2 billion over ten years in the facilities and infrastructure of the Chalk River Laboratories. This investment enables an exciting program in science and technology which includes ambitious goals such as:

- the siting of a new, small modular reactor at a CNL managed site by 2026;
- development and demonstration of a suite of targeted alpha therapy compounds (an emerging medical isotope technology) by 2022;
- expansion of CNL's program in hydrogen, with a goal to play a leading role in the demonstration of hydrogen-based bulk transport by 2020;
- demonstration of a new advanced fuel fabrication concept by 2020;
- the development, commercialization and deployment of a nuclear industrial control cyber intrusion detection and mitigation system by 2022; and
- the construction the Advanced Nuclear Materials Research Centre, a complex which will include new shielded facilities, and many advanced active laboratories for research involving active or irradiated materials.

Prior to joining CNL, Mr. Lesinski spent 10 years in the UK, first to accelerate closure of the Magnox South estate culminating as the Managing Director and then to serve as chief operating officer (COO) for the UK Nuclear Decommissioning Authority (NDA), developing and implementing strategy for the site licence companies (SLC). The unique combination of project and program management with site operating company (SOC) management and governance roles, as well as coordinating support with the National Nuclear Laboratory, provides Mr. Lesinski with the perspective and experience critical to leading CNL's transformation.

Poland - Michał Kurtyka, Secretary of State in the Ministry of Energy, Government Plenipotentiary for COP24 Presidency



Michał Kurtyka – Secretary of State, Government Plenipotentiary for COP24 Presidency, a trained physicist and engineer, economist, specialist in international negotiations, expert in the field of energy and the author of the government programme for the development of electromobility in Poland. He is a graduate of the prestigious Parisian École Polytechnique and a scholarship holder in the field of quantum optics of the National Institute of Standards and Technologies near Washington (DC), where he worked under the leadership of the Nobel laureate in physics, William D. Phillips. During his studies, he also specialized in economics, with special regard to market

organization under the leadership of Professor Jean Tirole, the Nobel laureate in economics in 2014. In the field of international economics, he studied at the University of Louvain La Neuve and obtained a master's degree at the Warsaw School of Economics. He defended his doctoral thesis at the University of Warsaw. He was a lecturer in the field of change management, economics, market organization and industrial strategy at the University of Warsaw, Collegium Civitas, Oxford Programme on Modern Poland. He is a co-author of the concept of conducting effective changes in enterprises, described in the book "Zarządzanie zmianą. Od strategii do działania" [Managing change. From strategy to action], as well as the author of the book "Od restrukturyzacji do modernizacji. Opóźniona transformacja polskiego sektora elektroenergetycznego w latach 1990-2009" [From restructuring to modernization. Delayed transformation of the Polish power sector in the years 1990-2009].

He started his professional career at the Office of the Committee for European Integration, in the team of Minister Jan Kułakowski, responsible for conducting accession negotiations with the European Union, where he led an analytical team and was directly responsible for the energy and transport area.

Then he modernised many Polish companies, in which he supported the adaptation to the challenges of the European and global market. He was a promoter of European cooperation in the field of industrial change and adaptation of industry in Europe to the challenges of globalization, among others as part of the European University of Labour and the Dublin Foundation.

The author of the government programme for the development of electromobility in Poland, described for the first time as a concept in the book written in 2013-2015, together with prof. Leszek Jesień, "New Electricity and New Cars". He is the Chairman of the Steering Committee of the Electromobility Programme. As the deputy minister of energy, he was the originator of the "Electromobility Development Plan", and then he piloted the creation of the act on electromobility and alternative fuels, thanks to which the forms of transport will have the possibility of developing dynamically.

As the Secretary of State in the Ministry of Energy, he is directly responsible for the technological development and introduction of innovations to the energy sector, implementation of climate and energy policy in the fuel and gas sector, conducting international relations with states and international organizations. His duties also include supervising the state's participation in the largest Polish energy companies in the oil and gas sector, such as Orlen, Lotos and PGNiG. He negotiates the provisions of the Winter Package, as well as legal acts regulating the electricity market in Europe. He represents Poland in the International Energy Agency.